

**OFF-SITE GROUNDWATER INVESTIGATION REPORT**

**HARDESTY FEDERAL COMPLEX  
601-607 HARDESTY AVENUE  
KANSAS CITY, JACKSON COUNTY, MISSOURI**

**EPA ID No. MON000703320**

**Terracon Project No. 02037021  
September 9, 2003**

*Prepared for:*

**UNITED STATES GENERAL SERVICES ADMINISTRATION  
Kansas City, Missouri**

*Prepared by:*

**Terracon  
Lenexa, Kansas**

**Terracon**



September 9, 2003

13910 W. 96th Terrace  
Lenexa, Kansas 66215  
(913) 492-7777 Fax: (913) 492-7443

United States General Services Administration  
1500 East Bannister Road  
Kansas City, Missouri 64131-3088

Attn: Mr. Dave L. Hartshorn (6 PEC-F)

Re: Off-Site Groundwater Investigation Report  
Hardesty Federal Complex  
601-607 Hardesty Avenue  
Kansas City, Jackson County, Missouri 64116  
EPA Region 7  
EPA ID No. MON000703320  
Terracon Project No. 02037021

Dear Mr. Hartshorn:

Terracon is pleased to submit two copies of the Off-Site Groundwater Investigation Report for the above referenced property. This investigation was performed in general accordance with our proposal dated April 21, 2003. These off-site groundwater investigation activities were based on the results of Terracon's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Preliminary Assessment (PA) report dated November 4, 2002; Terracon's Expanded CERCLA Site Inspection (SI) report dated November 4, 2002; and Terracon's On-Site Groundwater Investigation Report dated August 20, 2003 for the above-referenced site. Terracon conducted the operations described in the following report to assess the potential lateral and horizontal extent of impact from the contamination identified during the on-site groundwater investigation activities at the subject site, which may be associated with historical clothing chemical pretreatment activities.

We appreciate the opportunity to perform these services for you. If you have any questions regarding this information, or if we can be of further assistance, please contact us at (913) 492-7777.

Sincerely,  
**Terracon**

Carrie A. Stull.  
Environmental Geologist

CAS/EJG

N:\DATA\PROJECTS.03\02037021\ON SITE GW INVESTIGATION\ON SITE GW INVESTIGATINrpt.doc

Eric J. Gorman, CHMM, P.G.  
Environmental Due Diligence Manager

Arizona ■ Arkansas ■ California ■ Colorado ■ Georgia ■ Idaho ■ Illinois ■ Iowa ■ Kansas ■ Kentucky ■ Minnesota ■ Missouri  
Montana ■ Nebraska ■ Nevada ■ New Mexico ■ North Carolina ■ Oklahoma ■ Tennessee ■ Texas ■ Utah ■ Wisconsin ■ Wyoming

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Terracon

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# OFF-SITE GROUNDWATER INVESTIGATION REPORT

HARDESTY FEDERAL COMPLEX  
601-607 HARDESTY AVENUE  
KANSAS CITY, JACKSON COUNTY, MISSOURI

Terracon Project No. 02037021  
September 9, 2003

## 1.0 INTRODUCTION

Terracon has conducted off-site groundwater investigation activities at the Hardesty Federal Complex in Kansas City, Jackson County, Missouri in general accordance with Missouri Department of Natural Resources (MDNR) approved proposal dated April 21, 2003, referred to as Phase II investigation activities. This investigation was based on the results of Terracon's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Preliminary Assessment (PA) report dated November 4, 2002; Terracon's Expanded CERCLA Site Inspection (SI) report dated November 4, 2002; and Terracon's On-Site Groundwater Investigation Report dated August 20, 2003 for the above-referenced site.

The purpose of these site investigation activities is to assess the potential lateral and vertical extent of chlorinated volatile organic compounds (VOCs) impact to off-site groundwater. Groundwater samples collected during the SI and during the on-site groundwater investigation activities had detected concentrations of VOCs above MDNR levels in the monitoring wells installed in the vicinity of Building 6, and along the northern site boundary. Because of the density (greater than water) of the VOCs of concern, attempts were made to collect groundwater samples at equal or greater depths than the deeper on-site groundwater monitoring wells. Phase II (Off-site Groundwater Investigation) was completed as follows:

- Installation and sampling of six (6) temporary groundwater sampling points north of the subject site property.

## 2.0 SERVICES PERFORMED

Terracon mobilized a truck-mounted Geoprobe® unit to the project site on July 29 and July 30, 2003, to perform off-site subsurface sampling. Seven (7) borings (B-1, B-2, B-3, B-4, B-5, B-6, and B-7) were advanced north and east of the subject site and within the Kansas City, Missouri Rights-of-Way of the adjacent properties and streets to sample groundwater. Each boring was advanced to depths ranging between 32 and 56 feet below grade surface (BGS). Boring locations are depicted in Figure 2, included as Appendix A, and described below. Groundwater was encountered in all of the boring locations; however, Terracon was unable to collect a groundwater sample from one (1) of the seven (7) boring locations, boring B-3.

- Boring location B-1 was advanced at the northeast corner of the intersection of Topping Avenue and Wilson Road. The boring was initially advanced to approximately 32 feet BGS for the purpose of logging soils; however, the Geoprobe® was unable to obtain soil recovery from 28 to 32 feet BGS. Because the soils encountered in boring B-1 appeared similar to on-site soils and because of the difficulty of advancing the borings to depth while collecting soils, the remainder of the borings were advanced to depth without collecting soils for logging purposes. It appeared that the Geoprobe® reached refusal when either sands or possible rock were encountered.

Terracon then moved the boring location approximately 4 feet south, and advanced to approximately 44 feet BGS, at which point the Geoprobe® encountered refusal. Terracon advanced a mil-slotted screen to collect water; however, due to the amount of fine sands and silt, which clogged the screen, Terracon was unable to obtain a groundwater sample. Terracon then moved the boring location approximately 6 inches south, and advanced a Screen Point-15 stainless steel sampler to approximately 44 feet BGS, at which point the Geoprobe® encountered refusal. Terracon attempted to collect a groundwater sample and failed. Terracon then pulled up the screen point sampler to approximately 25 feet BGS; however, the sampler would not drop out (open) due to the amount of sands and silt packed into the bottom of the sampler. Terracon was once again unable to obtain a groundwater sample. Terracon then moved the boring location approximately 6 inches south, and advanced rods with a point in the bottom, to approximately 40 feet BGS, at which point the Geoprobe® encountered refusal. Terracon pulled the rods up to approximately 36 feet BGS, and then 28 feet BGS; however, water did not enter into the boring. Terracon pulled the rods up to approximately 24 feet BGS, where water entered the boring. Terracon collected a groundwater sample using a stainless steel bailer. Because of the fine sands and silts clogging the screens, the remaining borings were advanced using rods with a point in the bottom, then pulling up to allow groundwater to enter into the boring.

- Boring location B-2 was advanced along the north side of Wilson Road, and west of Bellaire Avenue. The boring was advanced to approximately 39 feet BGS, at which point the Geoprobe® encountered refusal. Terracon pulled the rods up to approximately 37 feet BGS and collected a groundwater sample using a stainless steel bailer.
- Boring location B-3 was advanced along the south side of Independence Avenue and east of the railroad tracks. The boring was advanced to approximately 32 feet BGS at which point the Geoprobe® encountered refusal. Groundwater containing high amounts of sediments (silt) entered into the rods. Terracon was unable to collect a sample due to the high amount of sediment. Terracon pulled the rods up to approximately 26 feet BGS. Terracon was once again unable to collect a sample due to the high amount of sediment. Terracon pulled the remaining rods out of the boring hole, and installed a one (1)-inch diameter PVC perforated pipe installed in the hole created by the macro-core sampler; however, the PVC pipe would only reach approximately 8.5 feet BGS. Terracon attempted to measure for groundwater using a groundwater interface probe. Apparently, the bore hole had collapsed. Terracon then moved the boring location

approximately 10 feet west and advanced to approximately 22 feet BGS, and then pulled the rods up to approximately 18 feet BGS. Again, Terracon was unable to collect groundwater due to the high amount of sediment. Terracon pulled the rods up to approximately 14 feet BGS. Terracon was unable to obtain a groundwater sample from within boring B-3.

- Boring location B-4 was advanced at the northeast corner of the intersection of Lawndale Avenue and Independence Avenue. The boring was advanced to approximately 47 feet BGS, at which point the Geoprobe® encountered refusal. Terracon did not pull the rods up because water was apparently entering the rods through the joints. Terracon collected a groundwater sample using a stainless steel bailer.
- Boring location B-5 was advanced at the northwest corner of the intersection of Topping Avenue and Independence Avenue. The boring was advanced to approximately 56 feet BGS. Terracon pulled the rods up to approximately 52 feet BGS and water with a high sediment content entered into the boring to approximately 23.6 feet BGS. Due to the amount of sediment, Terracon was unable to collect a water sample. Terracon pulled the rods up to approximately 20 feet BGS. Terracon collected a groundwater sample using a stainless steel bailer.
- Boring location B-6 was advanced along the eastern side of Lawndale Avenue, north of Independence Avenue. The boring was advanced to approximately 43.5 feet BGS, at which point the Geoprobe® encountered refusal. Terracon pulled the rods up to approximately 41.5 feet BGS and collected a groundwater sample using a stainless steel bailer.
- Boring location B-7 was advanced along the eastern side of Oakley Avenue, north of Independence Avenue. The boring was advanced to approximately 52 feet BGS. Terracon measured for groundwater using a groundwater interface probe; however, no water was encountered. Terracon pulled the rods up to approximately 32 feet BGS and water with a high sediment content entered into the boring. Terracon attempted to collect a groundwater sample using a stainless steel bailer; however, Terracon had to continuously pull the rods up during the sampling activities due to the high amount of sediment in the water, which was clogging the bailer. Terracon had pulled up to 20 feet BGS by the time the sampling was complete.
- Boring location B-8 was planned to be located on the north side of Independence Avenue, west of Oakley Avenue. Terracon observed that utilities were not marked in the vicinity of the proposed B-8 and numerous adjacent property utilities appeared to be located in the area. Therefore, Terracon was unable to advance B-8.

Table 1.0 provides a summary of the depths to refusal and depth at which groundwater was sampled within each boring.

### 3.0 SAMPLING PROGRAM

Soil from B-1 was examined for lithology, color, moisture content, and visual or olfactory evidence of impact. The soil was collected by advancing a macro-core soil sampler (4' long x 2" diameter) encapsulating a four-foot sample within an acetate liner. The macro-core sampler was withdrawn to the surface, retaining the soil sample in the acetate liner. A boring log for boring B-1 is included as Appendix C. Soil samples were not submitted for laboratory analysis.

Terracon encountered groundwater in the seven (7) borings advanced during this off-site investigation (B-1, B-2, B-3, B-4, B-5, B-6, and B-7). However, Terracon was unable to obtain a water sample from boring B-3 due to the high amount of sediment encountered in the water. The water samples were collected through a one (1)-inch diameter stainless steel Geoprobe® rod using a stainless steel bailer.

Sampling equipment was cleaned prior to entering the site, between boring locations, and prior to departing the site. Cleaning consisted of an application of potable water using a high pressure sprayer with brushes, followed by a potable water rinse.

### 4.0 ANALYTICAL PROCEDURES

Terracon collected, preserved, and submitted six (6) groundwater samples to Test America, Inc., in general accordance with standard chain-of-custody procedures. In addition, Terracon also collected, preserved, and submitted one (1) trip blank, one (1) rinsate, and one (1) field blank sample, for quality assurance and quality control (QA/QC) purposes, to Test America. The samples collected and submitted to Test America were analyzed for VOCs analysis utilizing USEPA SW-846 Method 8260B. Due to the turbidity of the groundwater encountered and the fact that the groundwater samples were grab samples from within open, un-screened borings, a duplicate sample was not collected.

### 5.0 DATA EVALUATION

The laboratory analytical concentrations identified in the groundwater samples were compared to the Missouri Department of Natural Resources (MDNR) Cleanup Levels for Missouri (CALM) Groundwater Target Concentration (GTARC), dated September 1, 2001. Laboratory results are summarized in **Table 1**, in Appendix B, and the laboratory reports are provided in Appendix D.

The data evaluation for the groundwater samples of this limited investigation is as follows:

- Four (4) VOCs were detected above the laboratory detection limits from the 6 groundwater samples and the three (3) QA/QC samples collected. The VOCs detected above the laboratory detection limits consist of methylene chloride (common laboratory contaminant), cis-1,2-dichloroethene (cis-1,2-DCE), trichloroethene (TCE), and napthalene. TCE was detected most frequently and the only VOC detected above the MDNR CALM GTARC levels.

- TCE was detected above MDNR CALM GTARC levels in sample B-1 at 0.113 milligrams per liter (mg/l), in B-2 at 0.229 mg/l, and B-4 at 0.0662 mg/l. The GTARC action level for TCE is 0.005 mg/l. TCE was also detected in sample B-5 at 0.00440 mg/l; however, this concentration was below the MDNR CALM GTARC level.
- Cis-1,2-DCE was detected in sample B-1 at 0.0103 mg/l and sample B-2 at 0.00270 mg/l; however, these detections are below the MDNR CALM GTARC level of 0.07 mg/l.
- Naphthalene was detected above the laboratory detection limit in sample B-5. Naphthalene was not detected in any of the other samples collected and submitted for laboratory analysis.
- Methylene chloride was only detected in the field blank sample at 0.00640 mg/l; however, methylene chloride is a common laboratory contaminant and does not appear to be representative.
- VOCs were not detected above laboratory detection limits in samples B-6 and B-7.

Figure 3, in Appendix A, is a concentration map for TCE detected concentrations. It also displays the approximate groundwater sample intervals from which the samples were collected.

## 6.0 SURVEYING

Terracon subcontracted with a State of Missouri licensed surveyor to survey the location and elevation of the seven (7) boring locations. The boring locations were surveyed into the Missouri State Plane Coordinated System and elevations were recorded as feet above mean sea level. The boring location elevations are provided in **Table 2**, which is provided in Appendix B.

## 7.0 QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance and quality control (QA/QC) for this sampling event was provided by a combination of field blanks, rinsates, and trip blanks.

To test the reliability of sampling procedures and results, one (1) field blank sample was collected during groundwater sampling activities to evaluate the potential for contamination introduced by sample containers and preservatives. One (1) trip blank sample was also included in the sample cooler to be tested for VOCs, to evaluate potential contamination from sample cross-contamination introduced during collection, shipping, and storage of samples. One (1) rinsate sample was collected during soil sampling activities.

Sample collection, preservation, and chain-of-custody procedures used during sampling activities were in general accordance with Terracon's Standard Operating Procedures (SOPs) as included in Terracon's SI Workplan, *Hardesty Federal Complex, 601-607 Hardesty Avenue, Kansas City, Jackson County, Missouri*, dated February 4, 2002.

Field blanks: Deionized water was poured into the appropriate sample containers to be analyzed for VOCs. The field blank was prepared during the off-site groundwater sampling activities.

- Methylene chloride was only detected in the field blank sample at 0.00640 mg/l; however, methylene chloride is a common laboratory contaminant and does not appear to be representative.

Trip blanks: A trip blank was provided by the VOC laboratory. The bottle containing the trip blank was sealed by the laboratory and placed in the appropriate cooler for transport to the site. The trip blank was then sent back to the laboratory along with the cooler which contained the water samples collected and analyzed for the same sample parameters as the water samples.

- No VOCs were detected in the trip blank sample. Based on the analytical results of the trip blank sample submitted with the sample cooler, it does not appear that cross contamination has occurred.

Rinsate: Deionized water was poured over equipment used during the installation of the seven boring locations into the appropriate sample containers to be analyzed for VOCs.

- No VOCs were detected in the rinsate sample. Based on these results, it appears that the decontamination procedures at the site were completed appropriately.

## 8.0 GEOLOGY / HYDROLOGY

During the on-site groundwater investigation, Terracon encountered lean clays with silt to approximately 25 to 30 feet bgs, followed by silt between approximately 25 to 37 feet bgs, with sand between approximately 45 to 90 feet bgs. During the off-site groundwater investigation, Terracon encountered lean clays with silt to approximately 23.5 feet bgs, followed by silt between approximately 23.5 to 28 feet bgs, with sand between approximately 28 to 56 feet bgs.

Based on data gathered during the on-site groundwater investigation, the groundwater gradient for the subject site (GSA property) appears to flow toward the east-northeast, with some possible flow to the southeast, following site topographic gradient.

Terracon completed a file review of MDNR files for the former gasoline station located at 5712 Independence Avenue. This 5712 property is located on the north side of Independence Avenue from the subject site, and includes the former gasoline station and the vacant gravel lot, which adjoins the 5712 property to the west. There are currently 10 wells present on this property. These 10 wells were sampled for benzene, toluene, ethyl benzene, total xylenes (BTEX), methyl tertiary butyl-ether (MTBE), and total petroleum hydrocarbons (TPH) using Iowa Methods OA-1 and OA-2.

The file review conducted by Terracon included review of the following three reports: "Site Characterization Report", dated February 26, 2001; "Additional Monitoring Well Installation and Pilot Test Summary Report", dated November 27, 2001; and "Corrective Action Plan for Short Term Groundwater Monitoring and Installation of Vacuum-Enhanced Extraction Recovery System", dated September 13, 2002. These three reports were prepared by Kingston Environmental Services for Shook, Hardy, and Bacon L.L.P.

Based on data contained in the 5712 Independence Avenue files, wells and probes were advanced to depths ranging from 15 feet to 30 feet bgs. Boring logs, provided in these files, indicated that a silty-clay was present to a depth of 30 feet bgs. Groundwater elevation data provided in these files indicate that the groundwater present within 30 feet of ground surface, has an eastward trending gradient.

Groundwater elevations were not measured during the Terracon July 2003 off-site groundwater investigation activities due to sampling from within the soil borings.

## **9.0 FINDINGS AND RECOMMENDATIONS**

Based on the results of this Phase II (Off-site Groundwater Investigation), the conclusions and recommendations of this investigation are as follows:

- TCE appears to be the VOC constituent detected the most frequently in the groundwater samples collected. In addition, TCE was the only VOC detected above MDNR CALM GTARC levels. The GTARC action level for TCE is 0.005 milligrams/liter (mg/l). TCE was detected above MDNR CALM GTARC level in boring B-1 at 0.113 mg/l, in B-2 at 0.229 mg/l, and B-4 at 0.0662 mg/l.
- VOCs were not detected in groundwater samples B-6 and B-7.
- The approximate groundwater intervals from which the samples were collected are as follows: B-1 (24 to 28 feet bgs); B-2 (37 to 39 feet bgs); B-4 (14 to 41 feet bgs); B-5 (20 feet bgs); B-6 (40 to 44 feet bgs); and B-7 (20 to 32 feet bgs).

The VOCs detected at the site are dense nonaqueous phase liquids (DNAPLs). These DNAPLs have a higher density than water and will tend to sink through the aquifer over time as well as spread horizontally. Based on Terracon's On-site Groundwater Investigation Report, dated August 20, 2003, it appeared that the VOCs detected in on-site groundwater are following a known breakdown pathway for the VOCs present [PCA (and possibly PCE) → TCE/TCA → cis/trans 1,2-DCE → vinyl chloride]. Based on this Off-site Groundwater Investigation Report, it appears that the VOCs are present at lower elevations to the northeast, as evidenced by the increase in TCE concentrations compared to the groundwater sampling intervals in boring locations B-1, B-2, B-4, and B-5. That is, groundwater collected from deeper zones within the aquifer, from samples B-1 and B-2, had higher detected VOC concentrations than shallower groundwater samples from B-4 and B-5.

Based on the results of this investigation, Terracon recommends that off-site monitoring wells be installed to assess the lateral and horizontal extent of VOC impact to the northeast of the subject site.

## **10.0 LIMITATIONS**

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time period. Terracon makes no warranties, either express or implied, regarding the findings, conclusions or recommendations.

Findings, conclusions and recommendations resulting from these services are based upon information derived from the most recent on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable or not present during these services, and we cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this assessment. Subsurface conditions may vary from those encountered at specific sampling locations or wells or during other surveys, tests, assessments, investigations or exploratory services; the data, interpretations, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

This report has been prepared for the exclusive use and reliance of the GSA. Use or reliance by any other party is prohibited without the written authorization of the GSA, and Terracon. The limitation of liability defined in the Agreement for Services is the aggregate limit of Terracon's liability to the client and all relying parties.

## **APPENDIX A**

### **Figures**

**APPROXIMATE LOCATION OF THE SUBJECT SITE**



U.S.G.S. 7.5 MINUTE SERIES TOPOGRAPHIC MAP

## STATE of MISSOURI QUADRANGLE

KANSAS CITY, MO-KS

1991

FIGURE 1 - SITE VICINITY TOPOGRAPHIC MAP  
HARDESTY FEDERAL COMPLEX  
601-607 HARDESTY AVENUE  
KANSAS CITY, MISSOURI

Proj. Mngr: EJG

Terracon

Proj. # 02037021

Designed by: TAR

15950 College Blvd

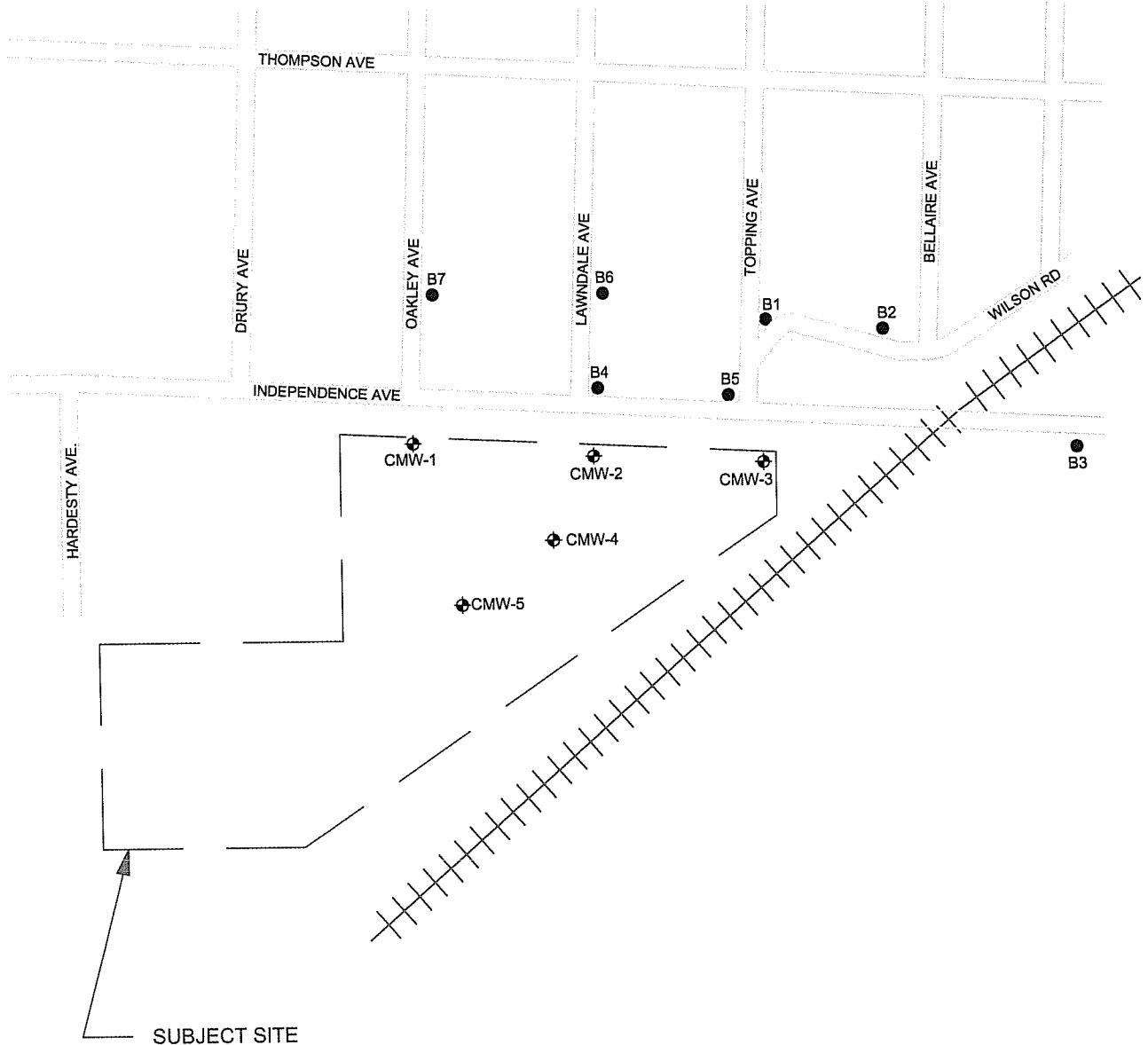
FN: Figure1.ppt

Drawn by: CAS

Lenexa, Kansas 66219

Date: 8/11/03

— 1 —



- OFF-SITE BORING LOCATIONS
- ◆ MONITORING WELL CLUSTERS

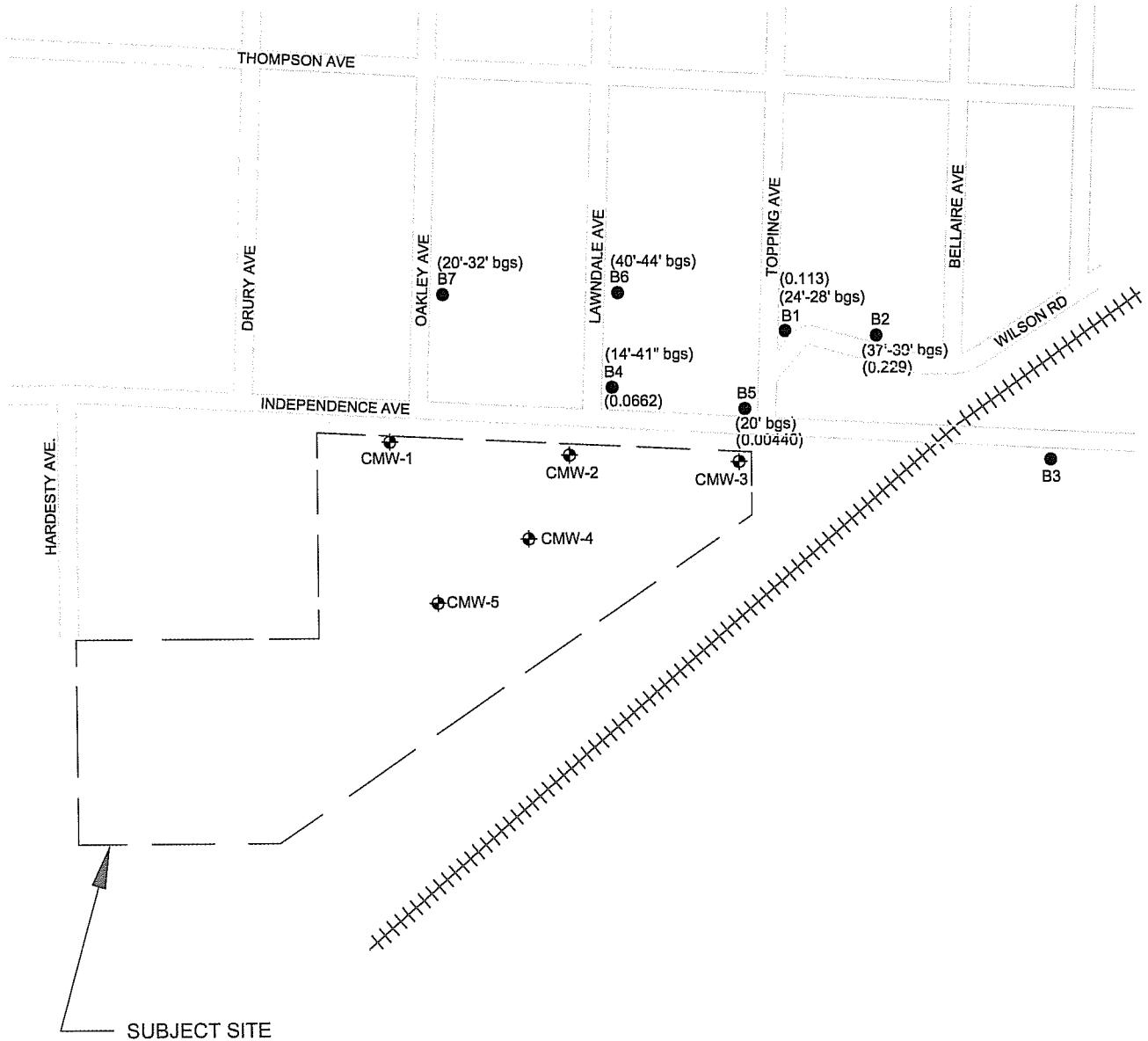
DIAGRAM IS FOR GENERAL LOCATION ONLY,  
AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

N:\DATA\PROJECTS 03\02037021\Hardesty\CADD\OFF-SITE FIG 2

**FIGURE 2  
SUBJECT SITE & BORING LOCATIONS  
HARDESTY FEDERAL COMPLEX  
KANSAS CITY, MISSOURI**

Project Mngr:	EJG	Project No.	02037021
Designed By:	TAR	Scale:	NO SCALE
Checked By:	CAS	Date:	8/4/03
Approved By:	EJG	Drawn By:	SAG
File Name:	OFF-SITE FIGURE 2.DWG	Figure No.	2





- OFF-SITE BORING LOCATIONS
- MONITORING WELL CLUSTERS
- (0.113) = TCE CONCENTRATION IN mg/L
- (bgs) = BELOW GROUND SURFACE

DIAGRAM IS FOR GENERAL LOCATION ONLY,  
AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES



N:\DATA\PROJECTS\03\02037021\Hardesty\CADD\OFF-SITE FIG 3

**FIGURE 3- SAMPLE INTERVALS  
OFF-SITE TRICHLOROETHENE (TCE) CONCENTRATION MAP  
HARDESTY FEDERAL COMPLEX  
KANSAS CITY, MISSOURI**

Project Mngr:	EJG	Project No.	02037021
Designed By:	TAR	Scale:	NO SCALE
Checked By:	CAS	Date:	9/5/03
Approved By:	EJG	Drawn By:	SAG
File Name:	OFF-SITE FIGURE 3.DWG	Figure No.	3

**Terracon**

13910 WEST 96th TERRACE  
LENEXA, KANSAS 66215

## **APPENDIX B**

### **Tables**

TABLE 1  
SUMMARY OF OFF-SITE GROUNDWATER ANALYTICAL DATA  
HARDESTY FEDERAL COMPLEX  
KANSAS CITY, JACKSON COUNTY, MISSOURI

Sample ID	Sample Date	Groundwater Collection Depth (feet bgs)	Boring Refusal (feet bgs)	Methylene chloride	cis-1,2-Dichloroethene (cis-1,2-DCE)	Trichloroethylene (TCE)	Naphthalene
GTARC*				0.1	0.07	0.005	0.1
B1	6/14/03	24-28	40	<0.00500	0.0103	<b>0.113</b>	<0.00500
B2	6/14/03	37-39	39	<0.00500	0.00270	<b>0.229</b>	<0.00500
B4	6/14/03	14-41	47	<0.00500	<0.00200	<b>0.062</b>	<0.00500
B5	6/14/03	20	NR*	<0.00500	<0.00200	0.00440	0.00690
B6	6/14/03	40-44	43.5	<0.00500	<0.00200	<0.00200	<0.00500
B7	6/14/03	20-32	NR**	<0.00500	<0.00200	<0.00200	<0.00500
Trip Blank	6/14/03			<0.00500	<0.00200	<0.00200	<0.00500
Rinsate	6/14/03			<0.00500	<0.00200	<0.00200	<0.00500
Field Blanks	6/14/03			0.00640	<0.00200	<0.00200	<0.00500
B3	Not sampled due to mud and silt content				Water encountered at 11-32 ft.	32 ft.	

Laboratory data source: TestAmerica, Inc.

\*Missouri Department of Natural Resources (MDNR) Cleanup Levels For Missouri (CALM) Groundwater Target Concentrations (GTARC), dated September 1, 2001.

Notes:

- 1) All groundwater concentrations reported in milligrams/liter (mg/l) (same as parts per million (ppm)).
- 2) bgs = below ground surface
- 3) Gray shaded bold cells indicate levels above MDNR CALM GTARC.
- 4) Not established (NE).
- 5) NR\* = no refusal to depth of 56 feet bgs, but encountered sand layer, silty/muddy water entered into hole to 23 feet bgs, unable to collect due to muddy water
- 6) NR\*\* = no refusal to a depth of 52 feet bgs, encountered sand, kept having to pull up sampling point due to sand and silt

**TABLE 2**  
**Boring Elevations**  
**Hardesty Federal Complex**

Boring Location	Date Measured	Boring Elevation (feet above MSL)
B-1	09/02/03	775.49
B-2	09/02/03	776.47
B-3	09/02/03	761.33
B-4	09/02/03	775.55
B-5	09/02/03	773.72
B-6	09/02/03	777.33
B-7	09/02/03	788.47

Note: MSL = Mean Sea Level

## **APPENDIX C**

### **Boring Logs**

## LOG OF BORING NO. B-1

Page 1 of 1

CLIENT GSA								
SITE Kansas City, Missouri		PROJECT Hardesty						
GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES			TESTS	
				NUMBER	TYPE	RECOVERY, %	SPT - N BLOWS / ft.	WATER CONTENT, %
	0.3 Grass cover			1	CS	80		
	1 LEAN CLAY, silty, brown			2	CS	95		
	FILL, gravel, asphalt and sand			3	CS	95		
	4 LEAN CLAY, silty, gray, gray brown, dry			4	CS	70		
	5 LEAN CLAY, silty, trace organics, mottled brown, trace gray and yellow brown, dry			5	CS	95		
	8			6	CS	95		
	10 LEAN CLAY, silty, trace organics, brown, gray, moderately moist			7	CS	95		
	16 LEAN CLAY, silty, trace organics, gray, brown, very moist, soft - trace iron nodules at 15' to 16'			8	CS	0		
	23.5 SILT, brown, gray, trace yellow brown, wet, soft - no recovery from 28' to 32'							
	32 BOTTOM OF BORING							

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

\* ND indicates a reading of less than the field detection limit (FDL) of one (1) part per million isobutylene equivalents (ppmi).

## WATER LEVEL OBSERVATIONS, ft

WL  WL  

WL

BORING STARTED 7-2-03

BORING COMPLETED 7-29-03

RIG GEOPROBE FOREMAN KH

APPROVED CAS JOB # 02037021



**APPENDIX D**

**Laboratory Reports and  
Associated Chain of Custody Forms**

8/ 1/03

TERRACON ENVIRONMENTAL 9451  
ERIC GORMAN  
13910 W. 96 TERRACE  
LENEXA, KS 66215

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: HARDESTY  
Project Number: 02037021.  
Laboratory Project Number: 341175.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980.

Sample Identification	Lab Number	Collection Date
B1	03-A117677	7/29/03
B2	03-A117678	7/30/03
B4	03-A117679	7/30/03
B5	03-A117680	7/30/03
B6	03-A117681	7/30/03
B7	03-A117682	7/30/03
Trip Blank	03-A117683	
RINSATE	03-A117684	7/30/03
FIELD BLANKS	03-A117685	7/30/03

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Page 2

Sample Identification

Lab Number

Collection Date

These results relate only to the items tested.  
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permission of the laboratory.

Report Approved By:

Report Date: 8/ 1/03

Ashley Morris, Lab Director

Gail A. Lage, Technical Serv.

Michael H. Dunn, M.S., QA/QC Director

Glenn L. Norton, Technical Serv.

Johnny A. Mitchell, Operations Manager Organics

Kelly S. Comstock, Technical Serv.

Eric S. Smith, Assistant Technical Director

Pamela A. Langford, Technical Serv.

Roxanne L. Connor, Technical Services

**ANALYTICAL REPORT**

TERRACON ENVIRONMENTAL 9451  
ERIC GORMAN  
13910 W. 96 TERRACE  
LENEXA, KS 66215

Lab Number: 03-A117677  
Sample ID: B1  
Sample Type: Ground water  
Site ID:

Project: 02037021  
Project Name: HARDESTY  
Sampler: CARRIE STULL

Date Collected: 7/29/03  
Time Collected: 15:47  
Date Received: 7/31/03  
Time Received: 8:10  
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis		Analyst	Method	Batch
					Date	Time			
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	11:30	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	11:30	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	11:30	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	11:30	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265

Sample report continued . . .

**ANALYTICAL REPORT**

Laboratory Number: 03-A117677  
Sample ID: B1  
Project: 02037021  
Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis		Analyst	Method	Batch
					Date	Time			
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	0.0103	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	11:30	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	11:30	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	11:30	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	11:30	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	11:30	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Trichloroethene	0.113	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	11:30	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117677  
Sample ID: B1  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	11:30	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	11:30	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	92.	70. - 133.
VOA Surr Toluene-d8	103.	76. - 123.
VOA Surr, 4-BFB	105.	71. - 132.
VOA Surr, DBFM	92.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

**ANALYTICAL REPORT**

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Lab Number: 03-A117678  
 Sample ID: B2  
 Sample Type: Ground water  
 Site ID:

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Date Collected: 7/30/03  
 Time Collected: 7:48  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	11:56	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	11:56	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.0250	1	7/31/03	11:56	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	11:56	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117678  
 Sample ID: B2  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	0.00270	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	11:56	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	11:56	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	11:56	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	11:56	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	11:56	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Trichloroethene	0.229	mg/l	0.0200	10	7/31/03	15:52	CHollingsw	8260B	9523
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	11:56	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117678  
Sample ID: B2  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	11:56	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	11:56	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	96.	70. - 133.
VOA Surr Toluene-d8	103.	76. - 123.
VOA Surr, 4-BFB	101.	71. - 132.
VOA Surr, DBFM	92.	74. - 128.

### LABORATORY COMMENTS:

- ND = Not detected at the report limit.  
B = Analyte was detected in the method blank.  
J = Estimated Value below Report Limit.  
E = Estimated Value above the calibration limit of the instrument.  
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Lab Number: 03-A117679  
 Sample ID: B4  
 Sample Type: Ground water  
 Site ID:

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Date Collected: 7/30/03  
 Time Collected: 10:41  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	14:59	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	14:59	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00500	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117679  
 Sample ID: B4  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	14:59	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	14:59	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	14:59	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	14:59	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	14:59	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Trichloroethene	0.0662	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	14:59	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117679  
Sample ID: B4  
Project: 02037021  
Page 3

Analyte	Result	Units	Report	Dil	Analysis		Analysis		
			Limit	Factor	Date	Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	14:59	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	14:59	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	93.	70. - 133.
VOA Surr Toluene-d8	104.	76. - 123.
VOA Surr, 4-BFB	100.	71. - 132.
VOA Surr, DBFM	89.	74. - 128.

### LABORATORY COMMENTS:

- ND = Not detected at the report limit.  
B = Analyte was detected in the method blank.  
J = Estimated Value below Report Limit.  
E = Estimated Value above the calibration limit of the instrument.  
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Lab Number: 03-A117680  
 Sample ID: B5  
 Sample Type: Ground water  
 Site ID:

Date Collected: 7/30/03  
 Time Collected: 12:26  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report	Dil	Analysis		Analyst	Method	Batch
			Limit	Factor	Date	Time			
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	12:48	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	12:48	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Bromochloromethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	12:48	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	12:48	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117680  
 Sample ID: B5  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	12:48	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	12:48	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	12:48	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	12:48	CHollingsw	8260B	8265
Naphthalene	0.00690	mg/l	0.00500	1	7/31/03	12:48	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Trichloroethene	0.00440	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	12:48	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117680  
Sample ID: B5  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	12:48	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	12:48	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	94.	70. - 133.
VOA Surr Toluene-d8	103.	76. - 123.
VOA Surr, 4-BFB	100.	71. - 132.
VOA Surr, DBFM	92.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Lab Number: 03-A117681  
 Sample ID: B6  
 Sample Type: Ground water  
 Site ID:

Date Collected: 7/30/03  
 Time Collected: 14:14  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report	Dil	Analysis		Analyst	Method	Batch
			Limit	Factor	Date	Time			
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	13:15	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	13:15	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	13:15	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	13:15	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117681  
 Sample ID: B6  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	13:15	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	13:15	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	13:15	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	13:15	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	13:15	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Trichloroethene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	13:15	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117681  
Sample ID: B6  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	13:15	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	13:15	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	98.	70. - 133.
VOA Surr Toluene-d8	103.	76. - 123.
VOA Surr, 4-BFB	100.	71. - 132.
VOA Surr, DBFM	93.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Lab Number: 03-A117682  
 Sample ID: B7  
 Sample Type: Ground water  
 Site ID:

Date Collected: 7/30/03  
 Time Collected: 16:07  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	13:41	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	13:41	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	13:41	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	13:41	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117682  
 Sample ID: B7  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	13:41	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	13:41	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	13:41	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	13:41	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	13:41	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Trichloroethene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	13:41	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117682  
Sample ID: B7  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	13:41	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	13:41	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	97.	70. - 133.
VOA Surr Toluene-d8	104.	76. - 123.
VOA Surr, 4-BFB	100.	71. - 132.
VOA Surr, DBFM	91.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Lab Number: 03-A117683  
 Sample ID: Trip Blank  
 Sample Type: Ground water  
 Site ID:

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Date Collected:  
 Time Collected:  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
<hr/>									
*VOLATILE ORGANICS*									
Acetone	ND	mg/l	0.0500	1	7/31/03	11:04	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	11:04	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Bromochloromethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	11:04	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	11:04	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117683  
 Sample ID: Trip Blank  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	11:04	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	11:04	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	11:04	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	11:04	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	11:04	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Trichloroethene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	11:04	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117683  
Sample ID: Trip Blank  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	11:04	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	11:04	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	94.	70. - 133.
VOA Surr Toluene-d8	102.	76. - 123.
VOA Surr, 4-BFB	102.	71. - 132.
VOA Surr, DBFM	90.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
ERIC GORMAN  
13910 W. 96 TERRACE  
LENEXA, KS 66215

Project: 02037021  
Project Name: HARDESTY  
Sampler: CARRIE STULL

Lab Number: 03-A117684  
Sample ID: RINSATE  
Sample Type: Ground water  
Site ID:

Date Collected: 7/30/03  
Time Collected: 14:42  
Date Received: 7/31/03  
Time Received: 8:10  
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis		Analyst	Method	Batch
					Date	Time			
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	14:07	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	14:07	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	14:07	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	14:07	CHollingsw	8260B	8265
Dibromochloromethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117684  
 Sample ID: RINSATE  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1-Dichloroethylene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
cis-1,2-Dichloroethylene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
trans-1,2-Dichloroethylene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	14:07	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	14:07	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	14:07	CHollingsw	8260B	8265
Methylene chloride	ND	mg/l	0.00500	1	7/31/03	14:07	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	14:07	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Trichloroethene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	14:07	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117684  
Sample ID: RINSATE  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	14:07	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	14:07	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	98.	70. - 133.
VOA Surr Toluene-d8	99.	76. - 123.
VOA Surr, 4-BFB	102.	71. - 132.
VOA Surr, DBFM	90.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

## ANALYTICAL REPORT

TERRACON ENVIRONMENTAL 9451  
 ERIC GORMAN  
 13910 W. 96 TERRACE  
 LENEXA, KS 66215

Project: 02037021  
 Project Name: HARDESTY  
 Sampler: CARRIE STULL

Lab Number: 03-A117685  
 Sample ID: FIELD BLANKS  
 Sample Type: Ground water  
 Site ID:

Date Collected: 7/30/03  
 Time Collected: 14:49  
 Date Received: 7/31/03  
 Time Received: 8:10  
 Page: 1

Analyte	Result	Units	Report	Dil	Analysis		Analyst	Method	Batch
			Limit	Factor	Date	Time			
<b>*VOLATILE ORGANICS*</b>									
Acetone	ND	mg/l	0.0500	1	7/31/03	14:33	CHollingsw	8260B	8265
Benzene	ND	mg/l	0.0020	1	7/31/03	14:33	CHollingsw	8260B	8265
Bromobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Bromoform	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Bromomethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
2-Butanone	ND	mg/l	0.0250	1	7/31/03	14:33	CHollingsw	8260B	8265
n-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
sec-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
t-Butylbenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Carbon disulfide	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Carbon tetrachloride	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Chlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Chloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Chloroform	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Chloromethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
2-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
4-Chlorotoluene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2-Dibromo-3-chloropropane	ND	mg/l	0.00500	1	7/31/03	14:33	CHollingsw	8260B	8265
Dibromoform	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2-Dibromoethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Dibromomethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,3-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265

Sample report continued . . .

## ANALYTICAL REPORT

Laboratory Number: 03-A117685  
 Sample ID: FIELD BLANKS  
 Project: 02037021  
 Page 2

Analyte	Result	Units	Report Limit	Dil Factor	Analysis		Analyst	Method	Batch
					Date	Time			
1,4-Dichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Dichlorodifluoromethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2-Dichloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
cis-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
trans-1,2-Dichloroethene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,3-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
2,2-Dichloropropane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
cis-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
trans-1,3-Dichloropropene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Ethylbenzene	ND	mg/l	0.0020	1	7/31/03	14:33	CHollingsw	8260B	8265
Hexachlorobutadiene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
2-Hexanone	ND	mg/l	0.0100	1	7/31/03	14:33	CHollingsw	8260B	8265
Isopropylbenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
4-Isopropyltoluene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
4-Methyl-2-pentanone	ND	mg/l	0.0100	1	7/31/03	14:33	CHollingsw	8260B	8265
Methylene chloride	0.00640	mg/l	0.00500	1	7/31/03	14:33	CHollingsw	8260B	8265
Naphthalene	ND	mg/l	0.00500	1	7/31/03	14:33	CHollingsw	8260B	8265
n-Propylbenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Styrene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1,1,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1,2,2-Tetrachloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Tetrachloroethene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Toluene	ND	mg/l	0.0020	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2,3-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2,4-Trichlorobenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1,1-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,1,2-Trichloroethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Trichloroethene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2,3-Trichloropropane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
1,2,4-Trimethylbenzene	ND	mg/l	0.0020	1	7/31/03	14:33	CHollingsw	8260B	8265
1,3,5-Trimethylbenzene	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Vinyl chloride	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265

Sample report continued . . .

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## ANALYTICAL REPORT

Laboratory Number: 03-A117685  
Sample ID: FIELD BLANKS  
Project: 02037021  
Page 3

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Xylenes (Total)	ND	mg/l	0.0020	1	7/31/03	14:33	CHollingsw	8260B	8265
Bromodichloromethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265
Trichlorofluoromethane	ND	mg/l	0.00200	1	7/31/03	14:33	CHollingsw	8260B	8265

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	93.	70. - 133.
VOA Surr Toluene-d8	103.	76. - 123.
VOA Surr, 4-BFB	102.	71. - 132.
VOA Surr, DBFM	90.	74. - 128.

### LABORATORY COMMENTS:

ND = Not detected at the report limit.

B = Analyte was detected in the method blank.

J = Estimated Value below Report Limit.

E = Estimated Value above the calibration limit of the instrument.

# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

**PROJECT QUALITY CONTROL DATA****Project Number:** 02037021**Project Name:** HARDESTY**Page:** 1**Laboratory Receipt Date:** 7/31/03**Matrix Spike Recovery**

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
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**\*\*VOA PARAMETERS\*\***

Benzene	mg/l	< 0.0020	0.0504	0.0500	101	68 -	136	8265	03-A117677
Chlorobenzene	mg/l	< 0.00200	0.0538	0.0500	108	78 -	125	8265	03-A117677
1,1-Dichloroethene	mg/l	< 0.00200	0.0498	0.0500	100	67 -	141	8265	03-A117677
Toluene	mg/l	< 0.0020	0.0572	0.0500	114	73 -	133	8265	03-A117677
Trichloroethene	mg/l	0.113	0.204	0.0500	182#	69 -	141	8265	03-A117677
Tetrachloroethene	mg/l	< 0.00200	0.0588	0.0500	118	71 -	134	8265	03-A117677
VOA Surr 1,2-DCA-d4	% Rec				92	70 -	133	8265	
VOA Surr Toluene-d8	% Rec				103	76 -	123	8265	
VOA Surr, 4-BFB	% Rec				100	71 -	132	8265	
VOA Surr, DBFM	% Rec				95	74 -	128	8265	

**Matrix Spike Duplicate**

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
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**\*\*VOA PARAMETERS\*\***

Benzene	mg/l	0.0504	0.0511	1.38	22.	8265
Chlorobenzene	mg/l	0.0538	0.0552	2.57	17.	8265
1,1-Dichloroethene	mg/l	0.0498	0.0530	6.23	21.	8265
Toluene	mg/l	0.0572	0.0561	1.94	22.	8265
Trichloroethene	mg/l	0.204	0.202	0.99	22.	8265
Tetrachloroethene	mg/l	0.0588	0.0594	1.02	19.	8265

Project QC continued . . .

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## PROJECT QUALITY CONTROL DATA

Project Number: 02037021

Project Name: HARDESTY

Page: 2

Laboratory Receipt Date: 7/31/03

VOA Surr 1,2-DCA-d4	% Rec	93.	8265
VOA Surr Toluene-d8	% Rec	104.	8265
VOA Surr, 4-BFB	% Rec	96.	8265
VOA Surr, DBFM	% Rec	98.	8265

### Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
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### \*\*VOA PARAMETERS\*\*

Acetone	mg/l	0.250	0.231	92	52 - 151	8265
Benzene	mg/l	0.0500	0.0463	93	78 - 125	8265
Bromobenzene	mg/l	0.0500	0.0486	97	75 - 127	8265
Bromochloromethane	mg/l	0.0500	0.0526	105	72 - 136	8265
Bromoform	mg/l	0.0500	0.0468	94	63 - 130	8265
Bromomethane	mg/l	0.0500	0.0486	97	46 - 156	8265
2-Butanone	mg/l	0.250	0.261	104	67 - 143	8265
n-Butylbenzene	mg/l	0.0500	0.0498	100	65 - 132	8265
sec-Butylbenzene	mg/l	0.0500	0.0491	98	72 - 129	8265
t-Butylbenzene	mg/l	0.0500	0.0506	101	43 - 128	8265
Carbon disulfide	mg/l	0.0500	0.0541	108	68 - 139	8265
Carbon tetrachloride	mg/l	0.0500	0.0466	93	62 - 140	8265
Chlorobenzene	mg/l	0.0500	0.0496	99	82 - 120	8265
Chloroethane	mg/l	0.0500	0.0467	93	61 - 142	8265
Chloroform	mg/l	0.0500	0.0502	100	75 - 129	8265
Chloromethane	mg/l	0.0500	0.0468	94	46 - 147	8265
2-Chlorotoluene	mg/l	0.0500	0.0476	95	76 - 126	8265
4-Chlorotoluene	mg/l	0.0500	0.0514	103	77 - 125	8265
1,2-Dibromo-3-chloropropane	mg/l	0.0500	0.0487	97	64 - 132	8265
Dibromochloromethane	mg/l	0.0500	0.0482	96	74 - 132	8265
1,2-Dibromoethane	mg/l	0.0500	0.0541	108	77 - 128	8265
Dibromomethane	mg/l	0.0500	0.0507	101	74 - 133	8265
1,2-Dichlorobenzene	mg/l	0.0500	0.0522	104	77 - 129	8265

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

**Project Number:** 02037021

**Project Name:** HARDESTY

**Page:** 3

**Laboratory Receipt Date:** 7/31/03

**Laboratory Control Data**

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
1,3-Dichlorobenzene	mg/l	0.0500	0.0498	100	79 - 125	8265
1,4-Dichlorobenzene	mg/l	0.0500	0.0491	98	78 - 121	8265
Dichlorodifluoromethane	mg/l	0.0500	0.0474	95	45 - 149	8265
1,1-Dichloroethane	mg/l	0.0500	0.0485	97	75 - 129	8265
1,2-Dichloroethane	mg/l	0.0500	0.0490	98	69 - 135	8265
1,1-Dichloroethene	mg/l	0.0500	0.0498	100	73 - 132	8265
cis-1,2-Dichloroethene	mg/l	0.0500	0.0472	94	72 - 132	8265
trans-1,2-Dichloroethene	mg/l	0.0500	0.0490	98	71 - 134	8265
1,2-Dichloropropane	mg/l	0.0500	0.0489	98	81 - 126	8265
1,3-Dichloropropane	mg/l	0.0500	0.0501	100	83 - 127	8265
2,2-Dichloropropane	mg/l	0.0500	0.0438	88	39 - 151	8265
1,1-Dichloropropene	mg/l	0.0500	0.0495	99	77 - 128	8265
cis-1,3-Dichloropropene	mg/l	0.0500	0.0486	97	71 - 133	8265
trans-1,3-Dichloropropene	mg/l	0.0500	0.0479	96	69 - 131	8265
Ethylbenzene	mg/l	0.0500	0.0497	99	79 - 125	8265
Hexachlorobutadiene	mg/l	0.0500	0.0512	102	60 - 134	8265
2-Hexanone	mg/l	0.250	0.263	105	68 - 145	8265
Isopropylbenzene	mg/l	0.0500	0.0500	100	75 - 128	8265
4-Isopropyltoluene	mg/l	0.0500	0.0494	99	73 - 128	8265
4-Methyl-2-pentanone	mg/l	0.250	0.259	104	71 - 143	8265
Methylene chloride	mg/l	0.0500	0.0498	100	74 - 131	8265
Naphthalene	mg/l	0.0500	0.0503	101	62 - 142	8265
n-Propylbenzene	mg/l	0.0500	0.0486	97	73 - 128	8265
Styrene	mg/l	0.0500	0.0518	104	80 - 126	8265
1,1,1,2-Tetrachloroethane	mg/l	0.0500	0.0488	98	78 - 132	8265
1,1,2,2-Tetrachloroethane	mg/l	0.0500	0.0546	109	70 - 135	8265
Tetrachloroethene	mg/l	0.0500	0.0491	98	74 - 128	8265
Toluene	mg/l	0.0500	0.0489	98	79 - 125	8265
1,2,3-Trichlorobenzene	mg/l	0.0500	0.0562	112	69 - 136	8265
1,2,4-Trichlorobenzene	mg/l	0.0500	0.0531	106	69 - 131	8265
1,1,1-Trichloroethane	mg/l	0.0500	0.0507	101	72 - 132	8265

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

**Project Number:** 02037021

**Project Name:** HARDESTY

**Page:** 4

**Laboratory Receipt Date:** 7/31/03

**Laboratory Control Data**

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
1,1,2-Trichloroethane	mg/l	0.0500	0.0506	101	80 - 133	8265
Trichloroethene	mg/l	0.0500	0.0483	97	74 - 133	8265
Trichloroethene	mg/l	0.0500	0.0483	97	74 - 133	9523
1,2,3-Trichloropropane	mg/l	0.0500	0.0543	109	69 - 136	8265
1,2,4-Trimethylbenzene	mg/l	0.0500	0.0494	99	73 - 130	8265
1,3,5-Trimethylbenzene	mg/l	0.0500	0.0515	103	73 - 130	8265
Vinyl chloride	mg/l	0.0500	0.0491	98	63 - 140	8265
Xylenes (Total)	mg/l	0.150	0.150	100	78 - 127	8265
Bromodichloromethane	mg/l	0.0500	0.0473	95	77 - 132	8265
Trichlorofluoromethane	mg/l	0.0500	0.0470	94	59 - 142	8265
VOA Surr 1,2-DCA-d4	% Rec			99	70 - 133	8265
VOA Surr 1,2-DCA-d4	% Rec			99	70 - 133	9523
VOA Surr Toluene-d8	% Rec			101	76 - 123	8265
VOA Surr Toluene-d8	% Rec			101	76 - 123	9523
VOA Surr, 4-BFB	% Rec			99	71 - 132	8265
VOA Surr, 4-BFB	% Rec			99	71 - 132	9523
VOA Surr, DBFM	% Rec			100	74 - 128	8265
VOA Surr, DBFM	% Rec			100	74 - 128	9523

**Duplicates**

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd

Project QC continued . . .

# TestAmerica

ANALYTICAL TESTING CORPORATION

2960 FOSTER CREIGHTON DRIVE • NASHVILLE, TENNESSEE 37204

800-765-0980 • 615-726-3404 FAX

## PROJECT QUALITY CONTROL DATA

Project Number: 02037021

Project Name: HARDESTY

Page: 5

Laboratory Receipt Date: 7/31/03

### Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
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### \*\*VOA PARAMETERS\*\*

Acetone	< 0.00470	mg/l	8265	7/31/03	10:12
Benzene	< 0.0005	mg/l	8265	7/31/03	10:12
Bromobenzene	< 0.00030	mg/l	8265	7/31/03	10:12
Bromochloromethane	< 0.00030	mg/l	8265	7/31/03	10:12
Bromoform	< 0.00060	mg/l	8265	7/31/03	10:12
Bromomethane	< 0.00060	mg/l	8265	7/31/03	10:12
2-Butanone	< 0.00310	mg/l	8265	7/31/03	10:12
n-Butylbenzene	< 0.00010	mg/l	8265	7/31/03	10:12
sec-Butylbenzene	< 0.00030	mg/l	8265	7/31/03	10:12
t-Butylbenzene	< 0.00030	mg/l	8265	7/31/03	10:12
Carbon disulfide	< 0.00020	mg/l	8265	7/31/03	10:12
Carbon tetrachloride	< 0.00040	mg/l	8265	7/31/03	10:12
Chlorobenzene	< 0.00020	mg/l	8265	7/31/03	10:12
Chloroethane	< 0.00100	mg/l	8265	7/31/03	10:12
Chloroform	< 0.00080	mg/l	8265	7/31/03	10:12
Chloromethane	< 0.00070	mg/l	8265	7/31/03	10:12
2-Chlorotoluene	< 0.00040	mg/l	8265	7/31/03	10:12
4-Chlorotoluene	< 0.00050	mg/l	8265	7/31/03	10:12
1,2-Dibromo-3-chloropropane	< 0.00070	mg/l	8265	7/31/03	10:12
Dibromochloromethane	< 0.00050	mg/l	8265	7/31/03	10:12
1,2-Dibromoethane	< 0.00040	mg/l	8265	7/31/03	10:12
Dibromomethane	< 0.00090	mg/l	8265	7/31/03	10:12
1,2-Dichlorobenzene	< 0.00020	mg/l	8265	7/31/03	10:12
1,3-Dichlorobenzene	< 0.00030	mg/l	8265	7/31/03	10:12
1,4-Dichlorobenzene	< 0.00040	mg/l	8265	7/31/03	10:12
Dichlorodifluoromethane	< 0.00050	mg/l	8265	7/31/03	10:12
1,1-Dichloroethane	< 0.00020	mg/l	8265	7/31/03	10:12

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA**

**Project Number:** 02037021

**Project Name:** HARDESTY

**Page:** 6

**Laboratory Receipt Date:** 7/31/03

**Blank Data**

Analyte	Blank Value	Units	Q.C.	Batch	Analysis Date	Analysis Time
1,2-Dichloroethane	< 0.00060	mg/l		8265	7/31/03	10:12
1,1-Dichloroethene	< 0.00060	mg/l		8265	7/31/03	10:12
cis-1,2-Dichloroethene	< 0.00060	mg/l		8265	7/31/03	10:12
trans-1,2-Dichloroethene	< 0.00050	mg/l		8265	7/31/03	10:12
1,2-Dichloropropane	< 0.00040	mg/l		8265	7/31/03	10:12
1,3-Dichloropropane	< 0.00040	mg/l		8265	7/31/03	10:12
2,2-Dichloropropane	< 0.00040	mg/l		8265	7/31/03	10:12
1,1-Dichloropropene	< 0.00050	mg/l		8265	7/31/03	10:12
cis-1,3-Dichloropropene	< 0.00030	mg/l		8265	7/31/03	10:12
trans-1,3-Dichloropropene	< 0.00050	mg/l		8265	7/31/03	10:12
Ethylbenzene	< 0.0003	mg/l		8265	7/31/03	10:12
Hexachlorobutadiene	< 0.00080	mg/l		8265	7/31/03	10:12
2-Hexanone	< 0.00420	mg/l		8265	7/31/03	10:12
Isopropylbenzene	< 0.00040	mg/l		8265	7/31/03	10:12
4-Isopropyltoluene	< 0.00060	mg/l		8265	7/31/03	10:12
4-Methyl-2-pentanone	< 0.00490	mg/l		8265	7/31/03	10:12
Methylene chloride	< 0.00240	mg/l		8265	7/31/03	10:12
Naphthalene	< 0.00120	mg/l		8265	7/31/03	10:12
n-Propylbenzene	< 0.00030	mg/l		8265	7/31/03	10:12
Styrene	< 0.00040	mg/l		8265	7/31/03	10:12
1,1,1,2-Tetrachloroethane	< 0.00060	mg/l		8265	7/31/03	10:12
1,1,2,2-Tetrachloroethane	< 0.00040	mg/l		8265	7/31/03	10:12
Tetrachloroethene	< 0.00040	mg/l		8265	7/31/03	10:12
Toluene	< 0.0006	mg/l		8265	7/31/03	10:12
1,2,3-Trichlorobenzene	< 0.00100	mg/l		8265	7/31/03	10:12
1,2,4-Trichlorobenzene	< 0.00060	mg/l		8265	7/31/03	10:12
1,1,1-Trichloroethane	< 0.00070	mg/l		8265	7/31/03	10:12
1,1,2-Trichloroethane	< 0.00040	mg/l		8265	7/31/03	10:12
Trichloroethene	< 0.00040	mg/l		8265	7/31/03	10:12
Trichloroethene	< 0.00040	mg/l		9523	7/31/03	10:12
1,2,3-Trichloropropane	< 0.00060	mg/l		8265	7/31/03	10:12

Project QC continued . . .

**PROJECT QUALITY CONTROL DATA****Project Number:** 02037021**Project Name:** HARDESTY**Page:** 7**Laboratory Receipt Date:** 7/31/03**Blank Data**

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
1,2,4-Trimethylbenzene	< 0.0003	mg/l	8265	7/31/03	10:12
1,3,5-Trimethylbenzene	< 0.00100	mg/l	8265	7/31/03	10:12
Vinyl chloride	< 0.00050	mg/l	8265	7/31/03	10:12
Xylenes (Total)	< 0.0009	mg/l	8265	7/31/03	10:12
Bromodichloromethane	< 0.00030	mg/l	8265	7/31/03	10:12
Trichlorofluoromethane	< 0.00040	mg/l	8265	7/31/03	10:12
VOA Surr 1,2-DCA-d4	94.	% Rec	8265	7/31/03	10:12
VOA Surr 1,2-DCA-d4	94.	% Rec	9523	7/31/03	10:12
VOA Surr Toluene-d8	102.	% Rec	8265	7/31/03	10:12
VOA Surr Toluene-d8	102.	% Rec	9523	7/31/03	10:12
VOA Surr, 4-BFB	101.	% Rec	8265	7/31/03	10:12
VOA Surr, 4-BFB	101.	% Rec	9523	7/31/03	10:12
VOA Surr, DBFM	92.	% Rec	8265	7/31/03	10:12
VOA Surr, DBFM	92.	% Rec	9523	7/31/03	10:12

# = Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 341175

# TestAmerica

INCORPORATED

Nashville Division  
2960 Foster Croftton  
Nashville, TN 37204

Phone: 615-726-0177  
Fax: 615-726-3404

To assist us in using the proper analytical methods,  
is this work being conducted for regulatory purposes?  
Compliance Monitoring

**341175**

Client Name

TECHNICAL SERVICES

66715

Client #: 9451

Project Name: Thredesty

✓

Project #: 02037021

✓

State: MO

✓

Site/Location ID:

Report To: ERIC BIORMAN

✓

Invoice To: ERIC BIORMAN

✓

PO#:

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Quote #: 31134427463

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